

Minutes of the LCLS BLM Simulations Working Group  
 February 13, 2008

Attendees/Argonne: J. Dooling, B. Yang; /SLAC: A. Fasso, H.-D. Nuhn, M. Santana

Notes: Regarding placement of the foil, HDN will check on components in the beamline upstream of the undulators that might impact shower into the radiators. Presently, the MARS simulation model has just the PCMuon Fe collimator and the shower foil (OTR33, "Symbols file") upstream of the undulators. According to a portion of the Symbols file shown below, a number of elements do exist upstream of PCMuon:

Solid Edge	AREA	KeyW	ELEMENT	Eng_Name	L_EFF (m)	SUML (m)
<b>1965</b>	<b>LTU</b>	<b>PROF</b>	<b>OTR33</b>	<b>OTR</b>	<b>0.00000000</b>	<b>1462.59825000</b>
1967	LTU	YCOR	YCE34	class-4	0.00000000	1470.78366700
1969	LTU	QUAD	QE34	ETA	0.10800000	1471.41412700
1970	LTU	BPM	BPME34	05_um_res	0.00000000	1471.41412700
1973	LTU	WIRE	WS33		0.00000000	1480.23000300
1976	LTU	XCOR	XCE35	class-4	0.00000000	1488.41542000
1978	LTU	QUAD	QE35	ETA	0.10800000	1489.04588000
1979	LTU	BPM	BPME35	05_um_res	0.00000000	1489.04588000
1982	LTU	COLL	CX35		0.08000000	1489.93602400
1985	LTU	YCOR	YCE36	class-4	0.00000000	1506.04717300
1987	LTU	QUAD	QE36	ETA	0.10800000	1506.67763300
1988	LTU	BPM	BPME36	05_um_res	0.00000000	1506.67763300
1991	LTU	COLL	CY36		0.08000000	1507.56777700
1993	LTU	WIRE	WS34		0.00000000	1515.49351000
1998	LTU	XCOR	XCUM1	class-4f	0.00000000	1520.81811000
2000	LTU	QUAD	QUM1	Q150kG	0.31600000	1521.47397000
2001	LTU	BPM	BPMUM1	05_um_res	0.00000000	1521.47397000
2008	LTU	YCOR	YCUM2	class-4f	0.00000000	1527.57983000
2010	LTU	QUAD	QUM2	Q150kG	0.31600000	1528.18489000
2011	LTU	BPM	BPMUM2	05_um_res	0.00000000	1528.18489000
2015	LTU	YCOR	YCUM3	class-4f	0.00000000	1535.89035000
2017	LTU	QUAD	QUM3	Q150kG	0.31600000	1536.64581000
2018	LTU	BPM	BPMUM3	05_um_res	0.00000000	1536.64581000
2024	LTU	XCOR	XCUM4	class-4f	0.00000000	1540.45087000
2026	LTU	QUAD	QUM4	Q150kG	0.31600000	1541.10673000
2027	LTU	BPM	BPMUM4	05_um_res	0.00000000	1541.10673000
2030	LTU	BPM	RFB07	01_um_res	0.00000000	1541.86419000
2032	LTU	TORO	IMUNDI		0.00000000	1542.36419000
2037	LTU	BPM	RFB08	01_um_res	0.00000000	1545.69699000
2039	LTU	INST	TDUND		0.00000000	1546.32399000
<b>2041</b>	<b>LTU</b>	<b>ECOL</b>	<b>PCMUON</b>		<b>1.16840000</b>	<b>1547.28754000</b>
2043	LTU	INST	PVALVE		0.00000000	1548.02659900

HDN: Calculate dose and response; light signal ( $\Delta N_{\text{ph}}/\Delta t$ ) at the PMT. Based on geometry of the radiator and optics, analytically estimate the number of Cerenkov photons reaching the PMT photo-cathode. JD and BXY will try to have an estimate in two weeks.

AF will also try to calculate the Cerenkov signal at the detector. He expressed a need for support for writing a full description of the LCLS undulator section [using FLUKA].

MS requested the 2-D OPERA magnetic field simulation data of the LCLS quadrupoles. JD said he would send it.

[Author's note: In a meeting held Tuesday Feb. 12 at Argonne to review comments from the BLM PDR, Efim Gluskin expressed support for the LCLS simulation work. He asked if the full MARS LCLS model could be completed by mid-April. JD said he thought this was achievable.]

The next meeting is scheduled for Wednesday February 20, 2008, 4:30 PM CST.